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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,299	04/19/2004	Sung-hi Lee	1349.1357	9802
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EXAMINER				
SARPONG, AKWASI				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/826,299

Applicant(s)

LEE, SUNG-HI

Examiner

AKWASI M. SARPONG

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)
- Paper No(s)/Mail Date 06/13/2005 and 04/19/2004.
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomita (2003/00351320 in view of Kobayashi (6735641).

Claim 1, Tomita discloses a printing apparatus to perform a printing operation by driving hardware provided thereto according to a printing command received from a user (**Section 0071, Fig. 3, Image forming apparatus 11 prints and scans images**), comprising:

a firmware unit to store function information of a plurality of models of the printing apparatus (**Section 0125 and 0126-thus Computer unit 91 forms part of the image forming apparatus because they can communicate and also forms part of the apparatus**) and selectively perform the function of one of the plurality of models which corresponds to a model index designated as the printing apparatus is initialized (**Section 0127 and 0128, Fig. 6 El. 901 and 902-thus a copy function when selected transmit the copy software to the image apparatus which controls scanner 130**).

Tomita is silent about the how the firmware in the PC 90 which controls the scanner and the printer is located within the printing system.

Kobayashi is very clear that Printer firmware unit 34 control the software program of printers 3-1 through 3-n. **(Col. 6 Lines 50-67, thus printer firmware applying unit-34 provides software programs to printers 3-1 through 3-n)**. Therefore it will be obvious to one ordinary skilled in the art at the time the invention was made to modify Tomita's firmware unit to include Kobayashi's printer firmware applying unit so that different types or versions of printer can be supplied with the appropriate software or program that will be usable as taught by Kobayashi in Col. 6 Lines 59-61.

Claim 2, Tomita in view of Kobayashi **(Col. 6 Lines 60-66, thus storage unit 34 is designated for storing firmware or programs for the printers)** discloses a printing apparatus wherein the firmware unit comprises:

a storage unit to store the function information of the plurality of models therein **(Section 0127 and 0128, thus ROM 902 stores software or programs that controls processing apparatus)**;

a model index processing unit to store a model index designation command received from outside the firmware unit, **(Section 0127-CPU 901)** extract from the storage unit **(Section 0128 -ROM 902)** the function information which corresponds to the model index designated by the model index designation command upon the initialization of the printing apparatus, and output the extracted function information

(Section 0127, Fig. 6, El 901, thus the various control programs are stored in ROM 902 and extracted after there is an instruction of its initialization).

a firmware driving unit to control the hardware to receive the function information and perform a corresponding function **(Section 0127, Fig. 2 El. 301 is a CPU that controls all the different functionalities of the image forming apparatus).**

Claim 3, Tomita in view of Kobayashi discloses a printing apparatus wherein the firmware unit further comprises:

a data receiving unit to receive data from outside the firmware unit, and transmit the model index designation command to the model index processing unit in response to the model index designation command being in the received data; **(Tomita: Section 0094 and 0105, Fig. 4 El. 145 and 135, thus the firmware unit in Fig. 2 El. 31 has input control unit-306 used for receiving commands form the user)**

a data processing unit to receive the data excluding the model index designation command from the data receiving unit, and convert the data into corresponding printer language **(Tomita: Section 0071, Fig. 4 El. 121, thus control Unit-306 is also used for controlling or processing the input commands) and**

a data printing unit to control the hardware to output the converted data onto a printing medium **(Tomita: Sections 0073 and 0074, Fig. 4 El. 120, thus print driver unit-127 drives the print unit to print images).**

Claim 4, Tomita in view of Kobayashi discloses a printing apparatus that further comprising a developing unit and a fusing unit to output the converted data onto the printing medium, wherein the developing unit and the fusing unit are controlled by the data printing unit **(Tomita: Section 0074, Fig. 3, thus the image processing apparatus includes a printing unit which can be used to print images).**

Claim 5, Tomita in view of Kobayashi discloses a printing apparatus wherein the model index designation command is transmitted along with initialization files through a printer interface during the manufacturing of the printing apparatus, so that the model index designation command is processed upon the initialization of the printing apparatus **(Tomita: Section 0201, Fig. 7, thus as soon as image forming apparatus is turned on or powered on, the CPU initializes the printing unit within the image forming apparatus so that printing can commence).**

Claim 6, Tomita in view of Kobayashi discloses a printing apparatus wherein the model index designation command is transmitted in a separate command file that is transmitted through a printer interface to be processed by the firmware unit **(Tomita: Section 0131-0137, Fig. 7).**

Claim 7, Tomita discloses a method of supporting a plurality of models of a printing apparatus by a common firmware, the method comprising:
confirming a model index designation command which designates a model index

corresponding to one of the plurality of printing apparatus models (**Tomita: Section 0125 and 0126, Fig. 6, thus all the different models of the image forming apparatus have a supporting program or software that controls them**);

extracting function information corresponding to the one of the plurality of printing apparatus models which is designated by the model index designation command; confirming a function of the designated model using the function information; and performing the function (**Tomita: Section 0127, Fig. 6, El. 901, thus the program are transmitted or extracted by CPU 901**).

Tomita is silent about the how the firmware in the PC 90 which controls the scanner and the printer is located within the printing system.

Kobayashi is very clear that Printer firmware unit 34 control the software program of printers 3-1 through 3-n. (**Col. 6 Lines 50-67, thus printer firmware applying unit-34 provides software programs to printers 3-1 through 3-n**). Therefore it will be obvious to one ordinary skilled in the art at the time the invention was made to modify Tomita's firmware unit to include Kobayashi's printer firmware applying unit so that different types or versions of printer can be supplied with the appropriate software or program that will be usable as taught by Kobayashi in Col. 6 Lines 59-61.

Claim 8, Tomita in view of Kobayashi discloses a method further comprising inputting the model index designation command and storing the command in an

initialization file; and confirming the model index designation command by executing the initialization file **(Tomita: Section 0202, Fig. 15, thus the signals inputted represents a particular model index designation command and therefore informs the image forming apparatus on what type of model to accomplish).**

Claim 9, Tomita in view of Kobayashi discloses a method that further comprising writing a separate file which stores therein the model index designation command storing the file in the printing apparatus through a printer interface; and confirming the model index designation command by executing the file **(Tomita: Sections 0204, 0205 and 0206, Fig. 15, thus when the image instruction command is received it is stored in RAM of image processing apparatus and then transmitted to the corresponding object).**

Claim 10, Tomita in view of Kobayashi discloses a method wherein the function of a basic model that is previously set is performed in response to there being no function information corresponding to the designated model index **(Tomita: Sections 0204, 0205 and 0206, Fig. 15, thus if the previous model was a scanning operation until that has changed the transmitted program or software will be the scanning program).**

Claim 11, Tomita discloses a firmware unit to control a printing apparatus, wherein the firmware unit stores function information of a plurality of models of the

printing apparatus, and controls the printing apparatus according to the function information corresponding to the printing apparatus (**Tomita: Section 0125 and 0126, Fig. 6**).

Tomita is silent about the how the firmware in the PC 90 which controls the scanner and the printer is located within the printing system.

Kobayashi is very clear that Printer firmware unit 34 control the software program of printers 3-1 through 3-n. (**Col. 6 Lines 50-67, thus printer firmware applying unit-34 provides software programs to printers 3-1 through 3-n**). Therefore it will be obvious to one ordinary skilled in the art at the time the invention was made to modify Tomita's firmware unit to include Kobayashi's printer firmware applying unit so that different types or versions of printer can be supplied with the appropriate software or program that will be usable as taught by Kobayashi in Col. 6 Lines 59-61.

Claim 12, Tomita discloses a firmware unit, further comprising a storage unit to store the function information of the plurality of models of the printing apparatus (**Tomita: Section 0126, Fig. 904 shows clearly a storage medium that stores software and programs that operates the image forming apparatus**).

Tomita is silent about the how the firmware in the PC 90 which controls the scanner and the printer is located within the printing system.

Kobayashi is very clear that Printer firmware unit 34 control the software program of printers 3-1 through 3-n. (**Col. 6 Lines 50-67, thus printer firmware applying unit-**

34 provides software programs to printers 3-1 through 3-n). Therefore it will be obvious to one ordinary skilled in the art at the time the invention was made to modify Tomita's firmware unit to include Kobayashi's printer firmware applying unit so that different types or versions of printer can be supplied with the appropriate software or program that will be usable as taught by Kobayashi in Col. 6 Lines 59-61.

Claim 13, Tomita in view of Kobayashi discloses a firmware unit that further comprising a model index processing unit to store a model index designation command received from outside the firmware unit extract the function information corresponding to a model index designated by the model index designation command, and output the extracted information. **(Tomita: Section 0127, Fig. 6 El. 901 thus the software or program is transmitted to the needed section of the apparatus).**

Claim 14, Tomita in view of Kobayashi discloses a firmware unit that further comprising a data receiving unit to receive data from outside the firmware unit, and transmit the model index designation command to the model index processing unit in response to the model index designation command being in the received data **(Tomita: Section 0094 and 0105, Fig. 4 El. 145 and 135, thus the firmware unit in Fig. 2 El. 31 has input control unit-306 used for receiving commands form the user)**

Claim 15, Tomita in view of Kobayashi discloses a firmware unit that further comprising a data processing unit to receive the data excluding the model index designation command from the data receiving unit and convert the data into corresponding printer language **(Tomita: Section 0071, Fig. 4 El. 121, thus control Unit-306 is also used for controlling or processing the input commands).**

Claim 16, Tomita in view of Kobayashi discloses a firmware unit that, further comprising a data printing unit to control hardware of the printing apparatus to output the converted data onto a printing medium **(Tomita: Sections 0073 and 0074, Fig. 4 El. 120, thus print driver unit-127 drives the print unit to print images).**

Claim 17, Tomita in view of Kobayashi discloses a firmware unit that further comprising a firmware driving unit to control hardware of the printing apparatus to receive the function information and perform a corresponding function **(Tomita: Section 0126, Fig. 6 El. 904, thus the CPU Controls all the sections of the image forming apparatus).**

Claim 18, Tomita discloses a method of controlling a printing apparatus, the method comprising:

storing function information of a plurality of models of the printing apparatus in the printing apparatus, **(Section 0126, Fig. 6 El. 904).**

controlling the printing apparatus according to the function information corresponding to the printing apparatus (**Section 0127, Fig. 6 EI 901**).

Tomita is silent about the how the firmware in the PC 90 which controls the scanner and the printer is located within the printing system.

Kobayashi is very clear that Printer firmware unit 34 control the software program of printers 3-1 through 3-n. (**Col. 6 Lines 50-67, thus printer firmware applying unit-34 provides software programs to printers 3-1 through 3-n**). Therefore it will be obvious to one ordinary skilled in the art at the time the invention was made to modify Tomita's firmware unit to include Kobayashi's printer firmware applying unit so that different types or versions of printer can be supplied with the appropriate software or program that will be usable as taught by Kobayashi in Col. 6 Lines 59-61.

Claim 19, Tomita discloses a firmware to control a plurality of models of a printing apparatus, wherein the firmware installed in the plurality of models of the printing apparatus comprises function information of each of the plurality of models, and controls each of the plurality of models according to function information corresponding to each of the respective models (**Section 0125 and 0126, Fig. 6 EI. 904**).

Tomita is silent about the how the firmware in the PC 90 which controls the scanner and the printer is located within the printing system.

Kobayashi is very clear that Printer firmware unit 34 control the software program of printers 3-1 through 3-n. (**Col. 6 Lines 50-67, thus printer firmware applying unit-**

34 provides software programs to printers 3-1 through 3-n). Therefore it will be obvious to one ordinary skilled in the art at the time the invention was made to modify Tomita's firmware unit to include Kobayashi's printer firmware applying unit so that different types or versions of printer can be supplied with the appropriate software or program that will be usable as taught by Kobayashi in Col. 6 Lines 59-61.

Claim 20, Tomita discloses a firmware to control a plurality of models of a printing apparatus, comprising: a plurality of model index functions (**Section 0125 and 0126, thus fig. 4 shows a printer and a scanner which are plurality of functions**); wherein the firmware controls the models of the printing apparatus according to a respective one of the model index functions designated in response to a model index command (**Section 0126 and 0127, thus the software or program of the image forming apparatus controls all the operations and functions of the printer**).

Tomita is silent about the how the firmware in the PC 90 which controls the scanner and the printer is located within the printing system.

Kobayashi is very clear that Printer firmware unit 34 control the software program of printers 3-1 through 3-n. (**Col. 6 Lines 50-67, thus printer firmware applying unit- 34 provides software programs to printers 3-1 through 3-n**). Therefore it will be obvious to one ordinary skilled in the art at the time the invention was made to modify Tomita's firmware unit to include Kobayashi's printer firmware applying unit so that

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different types or versions of printer can be supplied with the appropriate software or program that will be usable as taught by Kobayashi in Col. 6 Lines 59-61.

Response to Applicants response.

1. Applicant's arguments filed 04/04/2008 have been fully considered but they are not persuasive.

In regards to Claim 1, applicant argues that Tomita fails to disclose or teach the claim limitation "selectively perform the function of one of the plurality of models which corresponds to a model index designated as the printing apparatus is initialized."

In reply, Examiner disagrees because Tomita discloses clearly in Section 0080 and in Fig. 4, El. 110 shows a control module which stores firmware for all the other section of the image forming apparatus like the printer and the scanner. Since the scanner-130 and printer -120 uses different software or program which corresponds to either of the two different components.

Applicant also argues that PC 31 that stores programs and software-(firmware unit) used in the image forming apparatus is separate from the image forming apparatus.

In reply: First, the claim language used did not talk about the physical location of the firmware unit. Claim 1 just talked about printing apparatus and the PC-31 can be part of the image forming apparatus because it can communicate with all the other components or sections of the image forming apparatus.

Secondly, the fact that Fig. 2 shows a different figure does not mean that it is absolutely different from the image forming apparatus. As known in the art any section with a memory and controlling section can be called a Personal computer.

The Applicant further argues that the only function of PC-13 is to transmit new firmware to the printer controller.

In reply: Examiner respectfully disagrees. Yes PC-13 transmits new firmware if there is an upgrade or there is a new firmware into the system. However as shown in Fig. 15, there is initialization and then there is a reception of input command which designate which model is to be used.

Regarding Claim 7, Applicant argues that Tomita does not disclose or teach or suggest a "Common" firmware.

"extracting function information corresponding to the one of the plurality of printing apparatus models which is designated by the model index designation command".

In reply, Examiner disagrees because Tomita clearly disclose in Section 0139 that the transmission of the firmware which means that firmware is extracted from the transmission table 96 as shown in Fig. 8. Now looking at table 96 it shows clearly the model that and its corresponding apparatus using the e-mail addresses. Tomita also talks about transmission of the firmware in Section 0126. Transmission is another form of extraction of program or software as it well known in the art. Also Tomita clearly states a firmware unit in section 0126

According to Fig. 8, table 96 shows Model 1 has its corresponding email address and therefore its corresponding apparatus which means that the model index 1 is designated to customer 1 with that e-mail address. Therefore the assertion by the applicant that Tomita fails to teach or discloses plurality of printing apparatus models which is designated by the model designation command is not true.

Regarding Claim 11 and 12, applicant argues that Tomita does not disclose any device that can be interpreted as a firmware unit because the rest of the storage devices are all within a particular unit being scanner- 130 or Printer- 120.

In reply, Examiner disagrees because as shown by Tomita in fig. 4 apart from the scanner 130 and printer 120 Tomita also discloses El. 110 and 140 which also have firmware or storage device for programs and software and therefore can also be interpreted as a firmware unit. Also PC can also be interpreted as part of the image forming apparatus since the claim language does not say anything the physical location of the firmware unit. The claim language just talks about a firmware unit being able to store a plurality of functions.

Again as stated earlier on Tomita clearly states or talks about a firmware in Section 0126. The firmware stated by Tomita in Section 0126 is not different from the "Common" firmware claim in the present invention.

Regarding Claims 19-21, Applicant still argues about a firmware and a "common" firmware structure. Which has been addressed earlier on in this response?

Lastly, the applicant argues that the present invention is different from the invention as disclosed by Tomita because updating or changing of the firmware of a printer must be performed by downloading the updated or different firmware to the printer.

Examiner disagrees because the normal printer and scanner in the MFP shown in Fig. 3. El. 11 is a scanner and a printer combined which its supporting firmware or program or software has stored in that unit. The transmission of a new firmware means

the extraction of the firmware as claimed in the present invention and therefore does not make the Tomita's invention different from the claimed or present invention.

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **AKWASI M. SARPONG** whose telephone number is (571)270-3438. The examiner can normally be reached on **Monday-Friday 8:00am-5:00pm est.**

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, King Poon can be reached on 571-272-7440. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/K. Y. P./

Supervisory Patent Examiner, Art Unit 2625

